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ZALUKAEVA, TATYANA

[REDACTED] ART UNIT [REDACTED] PAPER NUMBER

1713

DATE MAILED: 09/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/070,915 | LETH-OLSEN ET AL. | |
| | Examiner | Art Unit | |
| | Tatyana Zalukaeva | 1713 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 March 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 11-31 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 11-31 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 11-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The transitional word (i.e. between the preamble and the body of claim) "characterized" as per claims 11-31 and phrases incorporating it are common in applications of European origin. In U.S. practice claims containing those words and phrases are rejectable under 35 USC 112.2 when characterization may connote more than mere description (dictionary definition); in scientific parlance characterization may imply one or more physical steps or procedures (e.g. structure determination, elemental analysis, or qualitative tests) to identify a product. Since it is rare that applicant intends more than a mere description when using this language, physical steps are rarely disclosed. As such the reader may be unsure about the meaning of the wording of the claims, and additionally the scope of the claim is often unclear ("characterized conveys no degree of openness). Usually these troublesome words or phrases can be replaced by the standard transitional words, "having", "comprising", "wherein" and the like.

The use of the phrase "preferably", as per claims 11, 12, 21, 22, 23, 24, 25, 26, 29, 30, 31 to link a broader range of values and/or meanings with a narrower range of values

Art Unit: 1713

and/or meanings render the claim to be indefinite. It is not clear what controls the actual metes and bounds of the claimed subject matter.

If a preferred embodiment is stated in a single claim, examples and preferences lead to confusion over the intended scope of the claim, because the metes and bounds of the claim are not clearly set forth. See **MPEP 2173.05(c)**.

3. Regarding claim 11, the phrase "such a... that" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 21-31 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO97/40076.

Claims 21-31 are product-by-process claims, and the emphasis is made on the product and its characteristics, and secondary on the process by which it is made.

WO'076 discloses spherical polymer particles with a narrow size distribution in the range of 10-50 micron (abstract). Initial seed particles are obtained with the size of 1-10 micron in one stage polymerization process (abstract). On page 6 dispersion polymerization one stage process is referred to in directly making particles with diameters up to 10 micron and a narrow size distribution. Examples A1-7 provide for the procedure of making the seed particles.

Furthermore there is no evidence, or no reason to believe that the process of polymerization as instantly claimed produces a different product, that of a polymerization of WO'076, consult In re Thorpe, 227 USPQ 964 (CAFC 1985), wherein the Examiner rejected product-by-process claims over a product, which although prepared in a different manner, appeared to be the same (prima facie) as the claimed product.

Furthermore, because of the nature of product-by process claims, the Examiner cannot ordinary focus on the precise difference between the claimed product and the

Art Unit: 1713

disclosed product. It is then Applicants' burden to prove that an unobvious difference exists. See In re Marosi, 218 USPQ 289, 292-293 (CAFC 1983).

In the instant case no Graham vs. John Deere analysis was made but rather the test set out in MPEP 706.03(e) and In re Marosi was applied while explaining why the claimed product does not patentably distinguish over the prior art under 35 USC 102/103.

See also footnote 11 O.G. Notice 1162 59-61, wherein a 35 USC 102/103 rejection is authorized in the case of product-by-process claims because the exact identity of the claimed product or the prior art product cannot be determined by the Examiner.

8. Claims 11-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Kasai et al (U.S. 4,694,035).

Kasai discloses process for preparing polymer particles having a particle diameter in a range of 0.1 to 500 micron **by one stage seeded polymerization** , comprising: finely dispersing a polymerizable monomer in an aqueous medium to prepare a monomer dispersion in which a number average particle diameter of the resulting monomer droplets is not larger than that of seed particles (abstract, col. 2, lines 60-62).

Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/31714. First WO'714 disclose what is meant by "small particles", i.e. CV in the range 5-25% and size range of 0.5-15 micrometers. (page 1, lines 20-25). The monodisperse particles of Kasai process are obtained regardless the monomers to be polymerized

(paragraph bridging col.2 and 3). The particles are monodisperse (col.2, line 64). This inherently meets the limitations on CV (variation coefficient). It is emphasized that uniform seed particles having a standard deviation falling within a range of 10% from a number average particle diameter are preferably used. This expressly meets the limitations on CV value. In accordance with the process of Kasai, the aqueous monomer dispersion as prepared is combined with a dispersion of seed particles in the same stage to make the polymerizable monomer absorbed or adsorbed on the seed particles, whereupon swollen particles are obtained (col.4, lines 63-68). Moreover, by using monodisperse seed particles, swollen particles in a monodisperse form can be obtained. (col. 5, lines 5-7). In order to decrease the number average particle diameter D_m , it is sufficient to add oily substances to the monomer, said oily substances having a smaller water solubility than the monomer and exerting no adverse influences on polymerization. Oily substances the water solubility of which is not more than 1/100 of that of the monomer are preferred. Representative examples of such oily substances are **solvents** such as hexane, decane and petroleums, polymerization initiators such as lauroyl peroxide and octanoyl peroxide, and monomers such as 2-ethylhexyl acrylate and stearyl methacrylate. For example, D_m of a dispersion as prepared by finely dispersing MMA in water in the presence of a surface active agent is about 26 micron. When n-hexane is added in an amount of 1 wt% based on the weight of MMA, the resulting number average particle diameter D_m is about 5 micron. Upon polymerization of MMA under such conditions, monodisperse MMA polymer particles having a particle diameter in a range of 2 to 10 micron can be formed (col.6, lines 5-22). There is no

special limitation to the upper limit of the mixing ratio of the polymerizable monomer to the seed particles. As long as the relation as represented by the equation (a) is satisfied, the seed particles can be easily swollen usually to about 1,000 to 10,000 times the original size. Table I in col.15, 16 provides the properties of particles obtained by Kasai's process. Thus the limitations of the instant process are either expressly or inherently met by Kasai.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. 6,228,925 discloses production of PVC particles with a narrow size distribution in the range 10-50 micron in a first stage, a vinyl monomer or a mixture of monomers is polymerized to form a polymer/oligomer seed particle in the range 1-10 micron In a second stage, another vinyl monomer or mixture of monomers is swelled into the polymer/oligomer seed particles and polymerization takes place in such a way that they grow into polymer particles of the desired size. It is preferable to use aromatic vinyl monomers or acrylates as the monomer in the seed particles. The seed particles in the first stage can be produced in a two-stage swelling process or by dispersion polymerization.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tatyana Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 - 5:30.

Art Unit: 1713

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 305-2450. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

**Tatyana Zalukaeva, Ph.D.
Primary Examiner
Art Unit 1713**

September 9, 2003

